

**PLAN OF MANAGEMENT  
FOR THE  
POINT QUOBBA FISH HABITAT PROTECTION  
AREA**

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FISHERIES MANAGEMENT PAPER NO. 185

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Department of Fisheries  
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Plan of Management  
for the  
Point Quobba Fish Habitat Protection Area

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## SECTION 1 INTRODUCTION

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The Point Quobba Fish Habitat Protection Area (FHPA) adjoins the well-known 'Blowholes' tourist attraction at Quobba Station, 75 kilometres north-west of Carnarvon WA, at the northernmost point of Shark Bay (see Map 1).

Point Quobba is a popular site for locals and tourists for beach activities, fishing and snorkelling, and as a place for children to learn to swim and gain an awareness of the marine environment.

The marine life and habitats of the area are of considerable scientific and recreational interest and are highly valued in the local community. However, the area is at risk from a high level of use and from conflict between users - which is due to the area's proximity to popular tourism sites, the boat ramp, camping and settlement areas.

In June 2002 the Blowholes Protection Association (BPA) approached the Minister for Agriculture, Forestry and Fisheries, expressing a desire to declare Point Quobba a FHPA. The perceived benefits of this declaration would be to:

- bolster the current reef observation area fishing closure;
- eliminate practices that are damaging the reef;
- clarify fishing restrictions; and
- reduce conflict between users.

FHPAs are established under section 115 (2) of the *Fish Resources Management Act 1994* (FRMA), and may be set aside by the Minister for Fisheries for the following purposes:

1. the conservation and protection of fish, fish breeding areas, fish fossils or the aquatic ecosystem; and/or
2. the culture and propagation of fish and experimental purposes related to that culture and propagation; and/or
3. the management of fish and activities related to the appreciation and observation of fish<sup>1</sup>.

In August 2002, the Minister for Agriculture, Forestry and Fisheries granted approval for the Department of Fisheries to assist the local community in the development of a draft Plan of Management for the proposed FHPA.

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<sup>1</sup> NOTE: The FRMA defines 'fish' as an aquatic organism of any species (dead or alive) except for the higher vertebrates and includes parts of an organism, such as a shell. Under this broad definition, all the biological components of an aquatic ecosystem with the exception of birds, mammals, reptiles and amphibians are defined as fish. This includes the reefs itself (Fisheries Management Paper No 117, 1998:49)

The Department's Fish and Fish Habitat Protection Program and Gascoyne Regional Office staff subsequently held discussions with interested people to develop a reasonable understanding of community expectations. Those individuals include local commercial and recreational fishers and representatives from Quobba Station, the Shire of Carnarvon and the BPA.

This final Plan of Management has been prepared following consideration of verbal and written comments received by the Department of Fisheries. A notice of intention to gazette the FHPA will be published in accordance with Section 118 of FRMA.

## **SECTION 2      METHODOLOGY**

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This final Plan of Management was developed through a process of literature review, data gathering and consultation with the Carnarvon community, key groups and government agencies.

Though little published information on the Point Quobba lagoon area is available, benthic habitat and bathymetric information has been obtained through interviews from individuals with good local knowledge. Discussions were also carried out with Department of Fisheries' staff in Carnarvon and Perth, the Shire of Carnarvon, and the Departments of Conservation and Land Management, and Planning and Infrastructure.

Letters were sent to the people who had previously expressed an interest in, or who might be affected by, the proposal, seeking information from them and their opinions on the proposed FHPA. This was followed up by inspections of the site and consultations in Carnarvon from 13 to 16 May 2003. A list of people who were consulted is at Appendix 1.

The draft Plan of Management was released for public review in August 2003 for a period of two months, ending 15 October. Twelve submissions were received during that time expressing unanimous support for the declaration of the FHPA. Following consideration of these submissions, this final Plan of Management for the proposed Point Quobba FHPA has been prepared by the Department of Fisheries.



## **SECTION 3 DESCRIPTION OF AREA**

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### **3.1 Location**

The proposed Point Quobba Fish Habitat Protection Area (FHPA) adjoins the well-known 'Blowholes' tourist attraction next to Quobba Station, 75 kilometres north-west of Carnarvon WA.

Point Quobba is the centre of a fisheries closure of 400 metres radius that prohibits "the taking of all fish and aquatic organisms by any means of capture other than oysters taken by hand" (see Map 1). The closure was declared in 1987, and includes waters beneath the cliffs, the rock platform between Point Quobba and its small associated island, and part of the shallow coral reef and lagoon south east of the point. This area is the subject of a Section 43 Order under the provisions of the *Fish Resources Management Act 1994* (FRMA), which prohibits fishing within the area, but allows for the collection of oysters.

### **3.2 Geomorphology**

Point Quobba is the northernmost point of Shark Bay and marks the boundary between two geomorphic sub-regions, referred to as the 'Cliff Coast' and the 'Dune Coast'<sup>2</sup>.

The Cliff Coast shoreline north from Point Quobba is composed of late Pleistocene Tamala limestone, with low limestone cliffs (less than 10 metres high), rocky shores, wave-cut rock platforms and occasional small beaches. The Blowholes, just north of Point Quobba, are the result of wave action in caves and fissures in the limestone platforms. The limestone cliff formation diverges southward from the coast as a submerged drop-off feature which varies between five to 15 metres in depth.

The Dune Coast shoreline, extending south-east from Point Quobba to Miaboolya Beach, is a sedimentary coast formed by relatively recent coastal processes. A narrow single beach ridge dune along the coast south of Point Quobba is backed by a series of vegetated parabolic dunes.

### **3.3 Marine habitats**

The marine habitat at Point Quobba is located in a transition zone between tropical and temperate climatic zones, and is therefore highly diverse. It contains a mix of endemic temperate south-west Australian species and tropical and temperate Indo-Pacific species.

#### **3.3.1 Offshore**

The waters west of the cliffs at Point Quobba are relatively deep at seven to 15 metres. Limestone rubble and platforms give way to sand further offshore. The rock surfaces and fissures provide habitat for a wide variety of hard and soft corals, sponges, fish and other marine life.

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<sup>2</sup> DA Lord & Associates in *Draft Carnarvon Coastal Strategy* SMEC Aust P/L 2001.

### **3.3.2 *Rock platform***

The rock platform west of Point Quobba is subject to frequent ocean swell. These waters cascade over the back of the platform (known locally as ‘the waterfall’) into two channels, which join together to flow strongly into the lagoon at a speed of up to four knots. Rock oysters are prolific in the channels, pools and rocky platform, and can be gathered by hand when seas and tides permit.

### **3.3.3 *Coral reef and lagoon***

Immediately south-east of Point Quobba and its associated island, the shallow coral reef is about 400 metres wide, extending beyond the closed area to a point offshore of the boat ramp. Many of the small reef fish in the part of the lagoon known as ‘the aquarium’ are tame and can be hand-fed with bread.

The reef appears to have formed on a submerged wave-cut limestone platform. A relatively shallow (one to two metres deep) lagoon has formed behind the reef crest. The lagoon area provides a relatively safe and snorkelling area, and is a popular destination for both the local community and tourists, where a wide diversity of coral and marine life can be easily observed relatively close to shore (see Section 3.4).

Within the lagoon, a submerged sand bar bisects the coral formations, connecting the island to a shallow sandy beach-side channel. Near the boat ramp, the channel is used for the mooring of boats and, over time, some anchor damage to reef corals has occurred. At very low tides, the coral is often exposed to the open air.

### **3.3.4 *Ocean beach***

While the boat ramp is in waters sheltered by the reef, the beach immediately south, extending to Black Rock, is in a high-energy wave environment. This beach slopes steeply to deeper waters, and often contains large banks of seagrass wrack accumulated from seagrass banks further south in Shark Bay.

### **3.3.5 *Limestone pavement***

The offshore limestone pavement is characterised by holes and crevices with sparse marine growth, and has been described by divers as “good crayfish bottom, but relatively barren”. It extends southward from the shallow coral reef and is approximately 700 metres wide and four to seven metres deep.

The western extremity of the platform is characterised by shallow breaking reefs.

### **3.3.6 *Reef and sand***

Between the limestone pavement and the beach, the habitat is composed of a sand and limestone rubble substrate, interspersed with small limestone reefs, some of which are quite

close to the beach, and which provide habitat for a variety of coral and other forms of marine life.

### 3.4 Marine fauna and flora

(The text in this section has been provided by Mr Roger Swainston)

“The northern edge of the [Point Quobba] lagoon is formed by an island and a shallow limestone platform linking it to the mainland. Pounded by waves, encrusting algae and sponges, sea urchins wedged in crevices, oysters, chitons and other hardy invertebrates survive. At low tide, blennies and damselfish dart to and fro in rock pools, and occasionally octopus glide from pool-to-pool, hunting stranded fish or shore crabs.

Water sweeps across the reef, carrying a soup of small food particles, and is funnelled into the narrow gap between island and mainland. Oysters abound in this high water energy environment forming a bar along the inner edge of the rocky reef platform.

Just behind the bar, the current - often a raging torrent when swell and tide are high - has carved out a deep basin. Here, a multitude of fish species gather to feed on small food particles in the water - butterflyfishes, wrasses, parrotfishes, sergeant majors and small electric-blue damselfish are abundant.

Over 100 species of fish may be seen in this natural aquarium. Lionfish shelter in large crevices, while young estuary cod and lizardfish lie on the basin floor, waiting to ambush unwary prey. Other larger predators such as mangrove jack, spangled emperor and longtom hang in the current. Though protected from the strongest waves, the water here is still turbulent and corals are robust. Small solid bushes of *Acropora* (a variety of brain coral), encrusting corals and sponges cover the rocks.

As the water flows out of this basin, it swirls across a flat stony area, exposed at very low tide, where giant clams are abundant, and around into the lee of the island. Small black-tip reef sharks may often be seen in the shallows. The island itself provides a favoured resting place for terns, ospreys and other seabirds.

Joined by water flooding into the lagoon over the outer reef, most of the southward water flow follows a channel along the shoreline. Whiting, mullet, small spangled emperor and many other fish move up-current, feeding along this sandy shoreline strip, as does the occasional larger shark looking for an easy meal.

Moving seaward from the sand, across a weedy rubble field, small parrotfish and yellow-dotted maori wrasse feed and shelter. Deeper channels meander out through the lagoon toward the outer reef. Humbug, *Dascyllus* and *Chromis* hover above and beaked leatherjacket move amongst blue staghorn coral branches.

Large colonies of *Acropora* and many tropical species of fish, carried south to here from warmer waters north of Point Quobba, can be found. Turtles often sleep in this maze and large parrotfish and emperor, or perhaps a flutemouth or porcupine fish can be encountered.

Further toward the outer reef, plate coral has grown almost to the surface. In this shallow area, with high water flow and plenty of sunlight, algae grows well on the dead coral and limestone. Schools of convict surgeonfish graze across these shallow fields. The deep shelves beneath collapsed plates of coral are home to moray eels, crayfish, wobbegong and yellow armoured knightfish, which hide on the dark ledges.

Beyond, the outer reef tumbles abruptly down in deep gullies between lumps of coral and weed-covered limestone to a sloping sandy floor. Larger fish such as mackerel and golden trevally, as well as many different types of wrasse, patrol this area.

Waves breaking on the outer reef push water across the lagoon to join the current flowing south. At the southern end of the lagoon, water pours out into the bay, swirling around enormous domed colonies of *Lobophyllia* brain coral. This coral has huge fragile polyps and thrives in this small area, protected from almost all wave action.

Ocean beach meets the lagoon here and garfish, tailor, longtom and other open-water fish congregate to feed on material carried out from the lagoon. Seagrass wrack, deposited by the waves in this corner of the bay provides a home for many small invertebrates, and attracts whiting and dart to the area.

The ocean beach curves away from the lagoon towards windswept Black Rock, surrounded by pot-holed and rocky limestone shallows. The bay contains patches of seagrass and lumps of limestone reef. Dolphins often hunt through this area, surfing the reef breaks and chasing longtom or shark mackerel. Dugongs have also been observed in the area.”

## **SECTION 4      DESCRIPTION OF USERS**

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The Point Quobba lagoon and beach area is the nearest clear-water ocean beach to Carnarvon. It is very popular with local people, particularly during summer and the Christmas and Easter school holiday periods.

Many locals have shacks at the Blowholes or use the area for camping and day use. During winter, weekend fishing and diving are popular recreational activities, as is potting and diving for western rock lobster during the season.

In winter, particularly between June and September, many retired people site their caravans in the caravan park for extended periods, often two or three months. Fishing is the dominant activity.

Many tourists visiting the Blowholes engage in fishing, sight-seeing and feeding the fish in lagoon ('the aquarium'). However, it has been reported that many find the area unwelcoming, because of the apparent closed community of squatters' shacks.

Commercial fishers fish for Spanish mackerel in the waters south of the lagoon during winter months, and access the waters via the existing boat ramp. Catches are transferred manually from the boat to a vehicle on the beach and then into the fish factory at Carnarvon for marketing.

A group of individuals with a particular interest in the marine and terrestrial environment surrounding the Point Quobba formed the BPA. The BPA includes owners of the shacks built along and behind the primary dune system at Point Quobba. The objective of the BPA is to assist with the management of the area, and to provide input into the long-term management of the area by both State and local government.

The BPA has particular concerns about the management of the marine environment at Point Quobba, and was instrumental in promoting consideration of the area as a FHPA. It is anticipated that the Shire of Carnarvon's current plans to upgrade the settlement will add value to the recreation experience of the area.

This Plan of Management for the proposed Point Quobba FHPA relates only to marine waters up to the high water mark.

Few usage statistics for the area are available, however it is known that there are 42 shacks at the Blowholes, and 95 caravan sites extending from the main area behind the primary beach dune toward Black Rock. During peak periods, visitors from up to 130 vans have been reported to utilise the beach area.

### **4.1 Major activities**

A major attribute of the Point Quobba area is the clear water and white sand beach of the lagoon. Families use the lagoon and associated reef extensively for swimming, snorkelling, fishing and beach activities. It is an important area for children learning to swim, snorkel and appreciate marine life.

A popular activity with tourists and children is hand-feeding the tame fish in 'the aquarium' at the tip of Point Quobba. Many small reef fish, as well as some larger parrot fish and bald chin groper, can be seen and approached by snorkellers.

Fishing in the lagoon is limited by virtue of the snags on the coral bottom, so fishing for whiting over the sand areas and casting and spinning for tailor are the main activities. Nets are occasionally laid along the beachside channel for whiting.

The boat launching and mooring area is sited just within the protected waters of the lagoon at its eastern entrance. Although referred to as a 'boat ramp', launching is actually over the sand and requires a four-wheel drive vehicle. There is underlying concrete slab, however this is often covered in sand.

Retrieval of boats is often only possible at high tide because of the steep nature of the ramp. Vessels therefore must often be moored along the beach to await retrieval. Boats up to eight metres use the ramp for access to offshore fishing, diving, spearfishing, mostly with SCUBA, and to lay and retrieve lobster pots.

Recreational fishing for rock lobster is a major activity during the season, from both the beach and boats. Setting pots and diving with air are the most common methods, however free diving from the beach and boats also occurs. Western rock lobster are plentiful due to the rocky nature of the substrate, and possibly also because the area is part of a larger permanent closure for commercial rock lobster fishers.

Beach fishing close to Point Quobba is fruitful because of the deep water and reefs near to the beach. The high flow-through rate of waters in the lagoon creates an especially good fishing location just east of the boat ramp, where many species including spangled emperor, queenfish, the various types of north west snapper, pink snapper, dart, garfish, squid and tropical species can be caught. Trolling for tailor and mackerel from the shallow coral reef is a popular activity, as is line fishing and spearfishing from boats for reef fish.

Rock oysters can be gathered by hand, when seas and tides permit, in the closed area near Point Quobba, though collection of the rocky substrate upon which the oysters grow is prohibited within the existing Section 43 closure. Other shellfish species, such as trochus shells and clams, are gathered for consumption. Collecting shells and coral for decoration and souvenirs occurs illegally in the lagoon and on the rock platforms on occasion.

The collection of large quantities of coral and 'live rock' by both licensed and recreational coral collectors is a sensitive issue that has created community conflict among Carnarvon residents in the recent past. In 2002, the Minister for Agriculture, Forestry and Fisheries declared a total prohibition on the recreational collection of coral and live rock in all WA State waters, pending the preparation of a long-term management strategy. Currently commercial collection is possible in the area.

Dab netting at night for garfish, well out from the lagoon and boat ramp, has been an integral part of commercial mackerel fishing operations at Point Quobba. This activity does not affect the recreational catch of garfish and is not considered to have a significant environmental impact on the area.

## **SECTION 5 VALUES OF AREA**

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### **5.1 Conservation values**

The Wilson Report<sup>3</sup> recommended that an area from Red Bluff to Point Quobba be considered as a Marine Reserve. It noted that the ecosystems supported by the many habitats are largely unspoilt and highly diverse, containing a mix of endemic temperate south-west Australian species with tropical and temperate Indo-Pacific species. The *Fisheries Environmental Management Plan for the Gascoyne Region*<sup>4</sup> also highlighted the Point Quobba area as worthy of consideration as a FHPA.

The Point Quobba coral reef and lagoon provides a good example of a sheltered near-shore reef. It is considered to have a high conservation value by virtue of the protection of the reef platform area within the existing Section 43 fisheries closure proclaimed in 1987, which prohibits the taking of all fish and aquatic organisms except for oysters (by hand).

### **5.2 Recreation values**

The marine waters in the vicinity of Point Quobba area are regionally important and highly valued by the people of Carnarvon for recreation because they are clear, and largely protected from open ocean swell, providing an excellent swimming and diving location. The adjacent hinterland also provides a suitable camping area.

Point Quobba is also one of the few places along the Gascoyne coast where both boat launching is possible and camping is permitted.

### **5.3 Education and scientific values**

The marine ecosystem within the proposed FHPA is of considerable scientific and recreational interest, and is highly valued by the local community, particularly in schools, as a place where children can gain an awareness of the marine environment.

### **5.4 Tourism values**

Tourist activity in the region is heavily based on enjoyment of the natural environment and the recreational opportunities provided by the coastal resource. Although not widely promoted in tourist literature, the Point Quobba area receives a significant number of tourists who visit the adjacent Blowholes and chance upon the area, either during a day trip or as part of a tour of the 'Carnarvon Outback Coast'.

Significant numbers of tourists and "grey nomads" (aged pensioners) stay for extended periods. Day visitors to the Point Quobba area mostly base themselves in Carnarvon during their time in the region, bringing considerable economic benefit to the town.

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<sup>3</sup> Department of Conservation and Land Management, 1994. *A Representative Marine Reserve System for Western Australia, Report of the Marine Parks and Reserves Selection Working Group*. Perth.

<sup>4</sup> *Fisheries Environmental Management Plan For The Gascoyne Region - Draft Report 2002*. Fisheries Management Plan No 142.

## **5.5 Aboriginal significance**

Point Quobba lies within the traditional area of the Baiyungu people, who are members of the Gnulli Group. The Baiyungu people use the area regularly, sometimes to collect trochus for consumption at Point Quobba and Black Rock. The Gnulli Native Title Claim (WC97\_028) covers the entire study area.

No registered Aboriginal sites are in the area, but there is need to conduct an anthropological assessment of the heritage values of the Point Quobba site, particularly if the proposed development plans for the settlement proceed. Any assessment should include the water area and consultation with Aboriginal people who have traditional links with the area.

## **SECTION 6      CURRENT AND POTENTIAL THREATS**

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There are a number of current and potential threats to the marine life at Point Quobba reef and lagoon. Most of these relate to the area outside the existing Section 43 fishing closure. However, some inappropriate activities occur within it, either through ignorance of the law, or through shortcomings in the wording of the Section 43 Order.

For example, Notice No. 330 of 1987 prohibits the *taking* of fish, but not *attempting to take* fish, with the result that Fisheries Officers cannot act against people fishing unless they have fish in their possession.

### **6.1    Recreational and Commercial Fishing**

Recreational fishing in the Point Quobba area outside the existing Section 43 fishing closure has the potential to affect fish populations, particularly resident territorial fish and ‘tame’ fish in the lagoon. Divers have reported entanglements of fishing line on the coral.

Outside the lagoon and reef area, spearfishing (with or without the use of SCUBA diving gear) is likely to have had a selective impact on resident fish species. There is little information available to warrant any restrictions on this activity. Migratory and pelagic fish moving through the area are not likely to be significantly affected by fishing activity.

The collection of oysters by hand within the area closed to fishing at Point Quobba is permitted, however there have been reports of people illegally taking the rock substrate upon which the oysters grow. This activity has the potential to cause long-term damage to the rocky, intertidal areas. Consultation carried out locally indicates that trochus, giant clams and other shellfish are also taken for consumption and there is a general view that the area is becoming depleted, particularly of clams. Other shellfish/shells are also often taken for decoration.

Minimal amounts of commercial fishing takes place in the proposed FHPA. The commercial fisheries licensed to operate in the area between Black Rock and Point Quobba (outside of the current fishing closure) are the Marine Aquarium Fish Limited Entry Fishery, Specimen Shell Limited Entry Fishery and ‘wetlining’ (dab netting for garfish for use as bait in the mackerel fishery).

Due to the limited effort within these fisheries, they are not considered to present an environmental threat to the proposed FHPA. However if the effort was to increase in the collection of corals, shells and aquarium fish from the reef area, this could potentially lead to localised depletion, especially of sedentary resident species.

### **6.2    Collection of coral and live rock**

In past years, the collection of corals and ‘live rock’ by both commercial and recreational collectors has caused extreme community concern and conflict amongst members of the Carnarvon community. To see pieces of coral or live rock taken from the reef has invoked an extremely emotional response, particularly where significant quantities are involved and where there is no legislation to limit the quantity taken. Corals, seaweed and reef fauna, including anemones, ‘live rock’ (substrate which has living marine organisms attached to it)

and shellfish may be collected easily from the Point Quobba area and their incidental depletion is a concern.

In 2004 the Minister for Agriculture, Forestry and Fisheries declared a total and permanent prohibition on the recreational collection of coral and live rock in all State waters. Currently commercial collection is possible within the area, made permissible under Marine Aquarium Fish Managed Fishery Licence conditions. The commercial collection of coral in WA is currently the subject of review by the Department of Fisheries.

### **6.3 Reef walking**

The lagoon area at Point Quobba is shallow, and ideally suited to observation by snorkelling. The area is extremely vulnerable to reef walking at low tides (except on the sand areas), as visitors are likely to trample on the delicate corals and other sedentary marine organisms.

### **6.4 Boat launching and mooring**

The 'boat ramp' is located in the sandy channel behind the reef at Point Quobba. This location provides protection from wave action making the location suitable for boat launching purposes. There are no other suitable locations for boat launching within the vicinity of Point Quobba. Each year, cyclones or winter storms move sand to and from the beach. Despite this, the ramp has remained in much the same position, with a navigable channel between the reef and beach.

Retrieval of boats is often only possible at high tide because of the steep nature of the ramp. Vessels therefore must often be moored along the beach and in the channel to await retrieval. Boats up to eight metres use the ramp for access to offshore fishing, diving, spearfishing, mostly with SCUBA, and to lay and retrieve lobster pots.

Moorings have been placed near the reef edge to allow a boat to be positioned in the deepest section of the channel. At low tide, the reef is exposed and, if the stern of the boat is not secured to the beach, the vessel is likely to be damaged by the reef, and in turn, the reef damaged by the boat. The constant re-laying of moorings and anchors also damages coral on the reef.

Boat launching and retrieval should not adversely affect the reef as long as care is taken to avoid propeller damage to coral. Seasonal storm activity naturally modifies the size and width of the channel; strong storm action can clear the channel; and at other times the accreting coastline fills the channel with sand. The size and width of channel affects the extent of mooring area and boat launching capacity of the area/ramp.

It has been reported that the channel has been artificially maintained in previous years using a bull-dozer to remove sand between low and high water mark and so increase the depth of the channel. Potential threats from this action include:

- damage to the reef if the bull dozer gets too close to the reef;
- disruption/change of natural flow of water; and
- disruption to sediment (sand) accretion and erosion processes within the lagoon area.

## **6.5 Boating and jet skis**

During consultation with local individuals by the Department of Fisheries, several people indicated that noise pollution, and public safety issues as a result of the use of motorised boats and jet skis within the lagoon area were of concern to them. For these reasons, it was suggested that this activity be excluded from the lagoon area. This concern was also raised within written submissions.

The use of jet skis is also likely to be disruptive to fish living in and around the lagoon, and detracts from an objective of the FHPA to encourage the appreciation and or observation of fish.

## **6.6 Water quality**

Toilets and waste disposal associated with the shack settlement at Point Quobba have the potential to affect water quality within the lagoon via the groundwater. In addition, erosion of the limestone track above the foreshore near the part of the lagoon ('the aquarium') may be creating localised erosion problems, thereby indirectly affecting water quality within the lagoon through increased sediment deposition.



## **SECTION 7      MANAGEMENT**

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### **7.1    Aim**

The aim of this final Plan of Management is to protect the coral assemblages, fish and marine environment of Point Quobba lagoon, reef and associated habitats for education, appreciation, conservation and observation purposes through the active involvement of the community.

The establishment of the Point Quobba area as a FHPA would provide a framework to enable improved management of human activities, minimise their impacts, and encourage community stewardship for the conservation of the lagoon, reef and its surrounds.

### **7.2    Purpose of the Fish Habitat Protection Area**

Under Section 115 (2) of the *Fish Resources Management Act 1994*, an area may be set aside as a FHPA for the following purposes:

1.    the conservation and protection of fish, fish breeding areas, fish fossils or the aquatic eco-system; and/or
2.    the culture and propagation of fish and experimental purposes related to that culture or propagation; and/or
3.    The management of fish and activities relating to the appreciation or observation of fish.

It is proposed that the purposes of the Point Quobba FHPA should be category 1 and 3, as above.

If a FHPA at Point Quobba is gazetted, the existing Section 43 Order at Point Quobba will be revoked, and a revised Section 43 Order prepared to give effect to the proposed fishing prohibition within the lagoon and reef area, as proposed within this Plan of Management.

### **7.3    Selection criteria and justification**

The reef area within lagoon and adjacent marine waters south to Black Rock from Point Quobba is proposed as a FHPA on the basis of the selection criteria outlined in the *Guidelines For The Establishment Of A Fish Habitat Protection Area* (Fisheries Management Paper No. 152). Table 1 expands on the above purposes and addresses the suite of selection criteria.

**Table 1 Selection criteria for the establishment of Fish Habitat Protection Areas (FHPAs)**

	<b>Purpose of FHPA</b>	<b>Selection Criteria</b>	<b>Justification of Proposed FHPA</b>
<b>1</b>	<b><i>Fish protection</i></b>	An area that provides for the protection, conservation or maintenance of protected, endangered, or threatened species of fish or other aquatic organisms.	The Point Quobba coral reef and lagoon provides the best example of a sheltered near shore reef easily accessible to Carnarvon residents. It has high conservation value by virtue of the protection of its key areas by the fishing closure proclaimed in 1987.
	<b><i>Habitat protection</i></b>	Areas of significant value for breeding, spawning, feeding, sheltering, or which serve as nursery areas or migration routes for fish and other aquatic organisms.	The area known as ‘the aquarium’ in Point Quobba lagoon has high value as a fish-feeding site, with significant tourism and educational value. The protection already provided by the fishing closure means that fish habitats remain in good condition and aquatic species can be studied relatively free of human interference.
	<b><i>Resource protection</i></b>	Areas of scientific interest or of importance for the economic or biological sustainability of particular aquatic organisms.	The ecosystems supported by the many habitats are largely unspoilt and highly diverse, containing a mix of endemic temperate south-west Australian species and tropical/temperate Indo-Pacific species.
	<b><i>Rehabilitation</i></b>	Areas of importance for fish and fish habitat which have been degraded through human impacts, but which have the potential to be rehabilitated.	There is evidence of degradation of the lagoon and reef through human activity destroying coral.
<b>2</b>	<b><i>Aquaculture &amp; research</i></b>	Areas which may be of special value for the culturing and breeding of fish, or for conducting aquatic research.	Not relevant. Note that research is covered in <i>Observation &amp; education</i> below.
<b>3</b>	<b><i>Human use &amp; resource sharing</i></b>	Areas used by commercial and recreational users, where their activities may impact adversely on the aquatic environment or lead to resource-sharing problems.	The commercial and recreational collection of coral and marine species has led to conflict between users of the lagoon/reef. The Point Quobba area is valued because it is the nearest clear water ocean beach to Carnarvon. It has high recreation value due to its safe waters, excellent fishing, and varied opportunities for diving.
	<b><i>Observation &amp; education</i></b>	Areas of value for public education on various aspects of fish and the interpretation of issues associated with fish and their habitats, or of value for the observation or appreciation of fish.	The marine life and habitats of the Point Quobba area are of considerable scientific and research interest. They are highly-valued in the local community, particularly in schools, as a place for children to gain an awareness of the marine environment.

Note: Compiled from Table 1 in *Guidelines For The Establishment Of A Fish Habitat Protection Area* (Fisheries Management Paper No. 152).

## 7.4 State and National context

The WA Government policy<sup>5</sup> for marine reserves and marine protected areas provides for the establishment of a system of protected areas, of which one kind is a Fish Habitat Protection Area (FHPA) which will be managed by the Department of Fisheries.

The Minister for Agriculture, Forestry and Fisheries can create or revoke a FHPA by an order in the Government Gazette. As described in Section 5.1, the values identified in the Wilson Report and the *Draft Fisheries Environmental Management Plan for the Gascoyne Region* (Fisheries Management Paper No. 142) support the creation of a FHPA at Point Quobba.

The Minister may also vest the management of a FHPA in a community group that is a 'body corporate'.

The proposed FHPA would generally meet the criteria for the World Conservation Union (IUCN) Category IV, Habitat/Species Management Area, which is a protected area managed mainly for conservation through management intervention so as to ensure the maintenance of habitats or particular species.

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<sup>5</sup> *New Horizons - The Way Forward in Marine Conservation and Management*. Government of WA, 1998



## **SECTION 8      MANAGEMENT OPTIONS**

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### **8.1    Boundary of FHPA**

All comments received during the preparation of this Plan of Management agreed that the principal objective of the proposed Point Quobba FHPA should be to protect the corals in the lagoon; and that the protection should apply to all of the lagoon area, not just the present area which is closed to fishing (with the exception of collection of oysters).

There was unanimous view that extending the FHPA to Black Rock would provide continuity and consistency of management of the marine area in front of the current shack settlement at Point Quobba and the area currently being considered for redevelopment by the Shire of Carnarvon.

Potential FHPA boundary options include:

- a)    the FHPA to cover only the lagoon/reef area; or
- b)    the FHPA to cover the lagoon/reef area and area of waters from the boat ramp to Black Rock

These areas are identified on Map 1.

In adopting the first option, management controls may be applied comprehensively across an entire FHPA or could be partially applied within particular areas. For example, a total fishing closure can apply in the lagoon area to conserve and protect fish, consistent with the objective of the FHPA, but to permit fishing in the remainder of the FHPA.

The inclusion of the area from the boat ramp to Black Rock provides for a degree of protection for the offshore ecosystems, and continuity and consistency of management of the area. The FHPA may also become a benchmark area for future research and provide a buffer area for the lagoon.

#### **Management Strategy 1**

**The boundary of the FHPA shall include all coastal waters extending from the lagoon/reef area south to and including Black Rock**

### **8.2    Fishing (recreational fishing and commercial fishing)**

Unanimous support has been expressed for the need to protect marine life within the lagoon area.

Many individuals consulted considered the presence of fishing, spearfishing, netting, taking lobsters and boating, including moorings, were inconsistent with conservation of the lagoon area. It was pointed out these activities can still be undertaken south-east of the boat ramp. Some took a more lenient view and pointed out that the major issue at Point Quobba was

protection of the corals and that there was no need to prohibit some of the other activities. For example, fishing for species such as whiting, tailor and north west snapper was said to have no effect on the reef ecosystem, as the fish were migratory and merely visited or passed through the lagoon.

In the area from the boat ramp to Black Rock, those consulted saw no need to restrict fishing, spearfishing, diving or lobster fishing, but some considered that netting and spearfishing with SCUBA and hookah should be prohibited. The alternative view was that extending the proposed FHPA to Black Rock would achieve little and be an unnecessary restriction on people's activities. Recreational netting is an issue being considered on a State-wide basis to review those areas open for netting.

One group considered commercial fishing for mackerel within the FHPA should not be restricted outside of the reef between the boat ramp and Black Rock.

Potential management options include:

- a) allowing fishing in the entire FHPA (apart from corals);
- b) prohibit fishing (taking, or attempting to take, fish and other marine life [except for oysters, by hand]) in the entire FHPA;
- c) prohibit fishing in the lagoon area and allow fishing in the remainder of the FHPA (but prohibiting the take of coral); or
- d) prohibit fishing within the lagoon area and allow some methods of fishing in the remainder.

Two principle objectives of the FHPA are to 'conserve and protect fish and the aquatic ecosystem' and to 'manage fish and activities relating to the appreciation or observation of fish'. The lagoon area is enclosed by the reef and can be considered as a complete physical unit, which has already been afforded some level of protection under the FRMA as a fishing closure (with the exception of the collection of oysters). It would therefore appear to be logical to continue to have a total fishing closure over the whole lagoon area, as indicated in Map 1.

Within the remainder of the proposed FHPA, the ability to carry out recreational (line, spear and net fishing as well as rock lobster and abalone fishing) and commercial fishing (squid and mackerel fishing) will remain unchanged and be subject to normal fishing regulations.

It is anticipated that the implementation of a fishing prohibition within the lagoon area would be under the provisions of the FRMA. As indicated in Section 6, the wording of any Order would prohibit *attempting* to take fish, so that Fisheries and Marine Officers can act against people found fishing in the closed area. The above wording would allow those individuals fishing outside the lagoon (and therefore with fish within their possession) access the boat ramp.

## **Management Strategy 2**

**All forms of fishing (with the exception of the take of oysters by hand) shall be prohibited within the lagoon area FHPA.**

### **8.3 Collection of Coral and Live rock**

There was unanimous support expressed for the protection of corals throughout the whole FHPA. In view of this fact, only one potential management option has been identified, that is, to prohibit the take of corals, live rock and benthic organisms across the entire FHPA.

A principle objective of the FHPA is to ‘conserve and protect fish and the aquatic ecosystem’. It is therefore important that all parts of vulnerable reef ecosystem remain undamaged.

The collection of corals and live rock has the potential to damage the reef ecosystem, and this activity is already prohibited in the lagoon area under existing legislation, with the exception of the take of oysters by hand. Recently, the Department of Fisheries legislated to prohibit the collection of coral and ‘live rock’ for recreational purposes throughout WA.

In recognition of the significance of the lagoon area as a coral habitat, and its vulnerability to disturbance, it is proposed the collection of all coral, live rock and benthic organisms (including clams) within the lagoon area (commercial and recreational) be prohibited. However, the collection of oysters would be permitted (but not the rock substrate to which the oysters are attached).

It is recognised the sampling of marine flora and fauna may be necessary from time to time as part of continuing research and monitoring proposals within the FHPA. In this case, exemptions for the collection of samples of marine flora or fauna would need to be sought from the Department of Fisheries under the provisions of the FRMA.

It is anticipated that the prohibition on the commercial take of coral and live rock, including live and dead shells within the lagoon would be implemented under provisions of the FRMA. Recreational collection of coral and live rock outside the lagoon area is already prohibited throughout WA, however, commercial collection could occur within the remainder of the FHPA in accordance with Marine Aquarium Fishery licence conditions.

## **Management Strategy 3**

**The collection of all coral, live rock and benthic organisms (including live and dead shells but excluding oysters) within the lagoon area of the FHPA shall be prohibited.**

### **8.4 Reef visitation (reef walking, snorkelling, swimming)**

This issue was not raised within verbal or written submissions received during the public consultation process. Nevertheless, it needs to be considered in view of the increasing popularity of the FHPA.

Potential management options include:

- a) inform local tourism operators of the significance of the area, and promote the need to protect the Point Quobba reef system;
- b) consider the provision of a reef diving trail to assist divers and a controlled walk area for reef walking; and
- c) prepare and install signage at the FHPA with the assistance of the Department of Fisheries, indicating its extent and purpose and to educate visitors about local species, habitats, and responsible viewing of the reef system;

Properly managed nature-based tourism is consistent with the education objective and the conservation of the Point Quobba FHPA. Nature-based tourism ventures are considered to be a useful way to increase public awareness and education about environmental values, while at the same time providing an income to tour operators.

The Department of Fisheries has licensing and management arrangements for the aquatic tour industry<sup>6</sup>. These require all nature-based tourism ventures to have been issued an 'aquatic eco-tourism' licence by the Department of Fisheries before they are allowed to operate.

There is potential for controlled walk areas for tourists to view the coral at low tides to be considered at some stage in the future. Also, there is a need for educational and interpretative signage to inform visitors of the sensitive nature of the reef ecosystem and to minimise damage to sedentary marine life including corals.

#### **Management Strategy 4**

**Ongoing management of the FHPA shall include consideration of the following:**

- **liaison with local tourism operators regarding the significance of the FHPA, and promote the need to protect the Point Quobba reef system;**
- **consider the provision of a reef diving trail to assist divers and a controlled walk area for reef walking; and**
- **preparation and installation of signage at the FHPA, with the assistance of the Department of Fisheries, to indicate the extent and purpose of the FHPA, and to educate visitors about local species, habitats, and responsible viewing of the reef system.**

### **8.5 Boating (moorings, boat movement and jet skis)**

There was strong support with both the recreational and commercial fishers for retaining the boat ramp due to the limited access points along that part of the coastline.

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<sup>6</sup> Ministerial Policy Guideline (No.12) '*The assessment of applications for the granting, renewal or transfer of fishing tour operator licences and aquatic eco-tourism operators licences*'.

Many individuals acknowledged that mooring activity within the FHPA was potentially damaging coral, and recognised the need for this matter to be properly managed to minimise continuing damage.

The use of jet skis and powered dinghies in the Point Quobba lagoon was identified as a source of community conflict. It was suggested this activity could damage coral, disturb marine life, and would be inconsistent with FHPA objectives regarding the protection of fish, and management of activities relating to the appreciation and observation of fish. However, it was widely acknowledged that boating access to the boat ramp posed no significant threat to the area.

Recent discussions have been held between the Department of Fisheries and the Shire of Carnarvon about the maintenance of an access channel between the low and high water mark, adjacent to the existing boat ramp. In the past, this has been manually maintained through periodic mechanical excavation. The waters adjacent to the boat ramp are included within the closed lagoon area and this excavation has the potential to impact on the environmental values of the area.

Potential management options include:

- a) continue use of the boat ramp;
- b) seek expert advice on moorings, with a view to:
  - installing environmentally-sensitive public moorings (with time limits); and or
  - prohibiting mooring in the lagoon and boat access channel;
- c) prohibit the anchoring of any craft within the lagoon area under the provisions of the FRMA;
- d) prohibit the use of jet skis in the lagoon area under the provisions of the FRMA; and/or
- e) seek expert advice (coastal engineers) on the likely impacts of altering the beach and shoreline channel from its natural state so that future applications (to clear the boat ramp channel) that are made to the Shire of Carnarvon and the Department of Fisheries can be properly considered.

There are a number of recreational and commercial fishers who have indicated their frequent use of the boat ramp. Further, it is not considered feasible to relocate the boat ramp away from the relatively protected site (behind the reef) due to public safety reasons. If the boat ramp were to be closed, this would create pressure on other areas of the coast that are currently undisturbed. There are a number of users (recreational and commercial fishers and tourism operators) that use the boat ramp and some would be unable to safely launch small boats in alternative locations such as in Carnarvon.

## **Management Strategy 5**

**Recreational and commercial fishers shall retain the use of the existing boat ramp.**

The existing mooring arrangements need careful review, with the long-term aim of reducing potential environmental impacts as well as managing increasing demand for them within the FHPA. The possibility of prohibiting moorings entirely, or the provision of a number of environmentally friendly moorings (and potential sources of funding) should be considered as part of this review, in consultation with key stakeholder groups.

### **Management Strategy 6**

**Mooring management arrangements within the FHPA shall be reviewed, with a view to reducing environmental impacts associated with their use.**

Anchoring on the reef causes damage to the reef substrate and is inconsistent with the FHPA objective of conserving and protecting the aquatic ecosystem. Therefore, it is not considered desirable to permit anchoring in the lagoon area. It is anticipated that this prohibition could be achieved under the provisions of the FRMA.

### **Management Strategy 7**

**The anchoring of any craft within the lagoon area of the FHPA shall be prohibited.**

The maintenance of a beach access channel between low and high and low water mark to the existing boat ramp has become an on-going management issue currently under consideration by both the Department of Fisheries and the Shire of Carnarvon. This matter needs careful review to ensure there are no long-term environmental impacts as a result of the maintenance activity.

### **Management Strategy 8**

**Expert advice shall be sought on the potential environmental impacts of on-going shoreline channel maintenance required for continued access to boat ramp channel, in consultation with the Shire of Carnarvon and Department of Fisheries.**

The use jet skis is considered to be disruptive and is inconsistent with the objectives of the FHPA regarding the protection of fish, and management of activities relating to the appreciation and observation of fish, particularly within the relatively sheltered waters of the lagoon area. It is anticipated that this prohibition could be achieved under the provisions of the FRMA.

### **Management Strategy 9**

**The use of jet skis within the lagoon area of the FHPA shall be prohibited.**

## **8.6 Water Quality**

The FHPA is located on a relatively high-energy coast, and water circulation within the lagoon area is not considered to be of significant concern. Notwithstanding this point, wastewater originating from any proposed development along the coast adjacent to the FHPA has the potential to have an impact on near shore water quality.

One comment was received by a member of the public on this issue, which suggested that a water quality analysis should be undertaken and be linked to the Shire's sustainable tourism study.

It is anticipated that any development along the coast adjacent to the FHPA will require formal planning approval in accordance with the Shire of Carnarvon and the State Planning Commission's planning policies, and national marine water quality guidelines.

## **8.7 Research and monitoring**

Key objectives of the FHPA include the conservation and protection of fish and the aquatic ecosystem, and the management of fish and activities relating to the appreciation or observation of fish. However, in encouraging use of the FHPA, it is recognised that increased public usage may put additional pressure on the area.

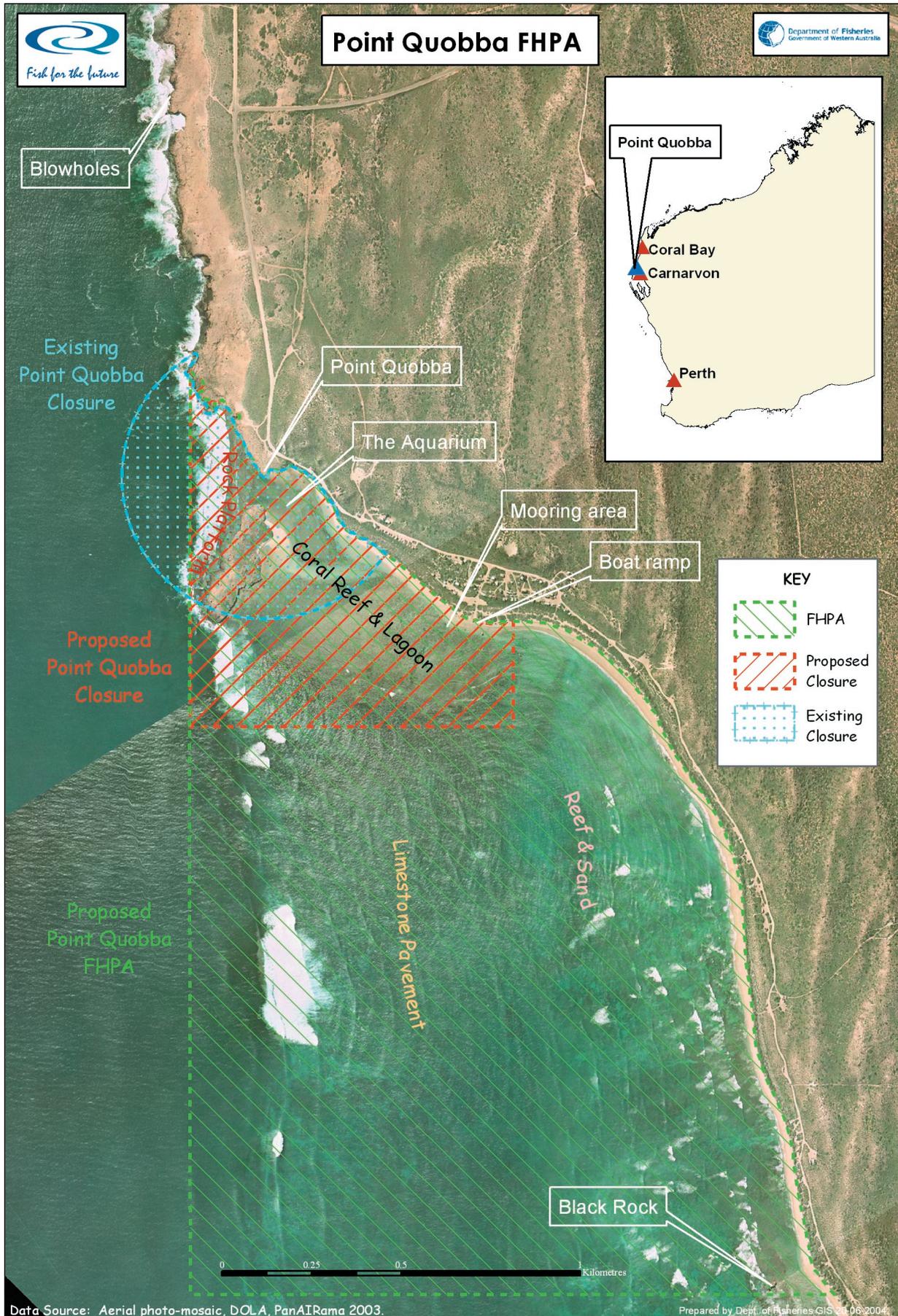
To ensure conservation objectives are met, continuing research and monitoring programs for the area should be encouraged.

In supporting research, it is vital to ensure that there is appropriate baseline monitoring of the marine ecosystem, and a coordinated monitoring program to compare and interpret data over a period of time to assess the effectiveness of management arrangement for the area. This monitoring should include the recreational activities being carried out in the FHPA, in order to identify which areas of the FHPA are under the greatest user pressure. Possible sources of funding also need to be identified to finance this research.

### **Management Strategy 10**

**Informed and well coordinated on-going monitoring of the aquatic ecosystem within the FHPA, including investigating possible sources of funding shall be promoted.**

Map 1 Point Quobba FHPA



## **SECTION 9            COMMUNITY INVOLVEMENT IN MANAGEMENT**

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The BPA originally nominated the Point Quobba reef system to be protected as a FHPA. In response, the Department of Fisheries encouraged community involvement in the preparation of the Plan of Management for the FHPA.

It is anticipated that the declaration of the Point Quobba reef as a FHPA will assist the community to develop a sense of stewardship for the area, and enable implementation of an effective management program of the marine and coastal resources by the community.

The Department of Fisheries will be directly responsible for the implementation of strategies that can be enforced directly under the provisions of the FRMA. However, it is anticipated establishment of a 'Working Group' will need to be established to provide a key role in supervising the on-going implementation of strategies contained within this Plan of Management. Such a Working Group would include representation from key groups including the Shire of Carnarvon, the BPA, the Department of Fisheries and community members.

Due to the remoteness of the location of the proposed FHPA, protection of the values of the Point Quobba area will rely heavily on community support and stewardship to ensure effective compliance with regulations. This means that information and educational initiatives, including establishing a community ethic about appropriate forms of behaviour toward the marine environment, will be essential.

The establishment of the two areas shown in Map 1 as a FHPA will provide a framework to:

- enable better management of human activities;
- minimise potentially environmentally harmful activities; and
- encourage community stewardship for the conservation of Point Quobba lagoon and its surrounds.

A primary objective of this Plan of Management is to raise public awareness, appreciation and understanding of the biodiversity and conservation values of the Point Quobba FHPA, and to promote community stewardship and management of it. An understanding of the Aboriginal heritage values of the area should also be encouraged. This information is required to ensure that management and interpretation programs for Point Quobba are consistent with these values.

The Department will consult on any additional management arrangements outside of this Plan of Management and continue to consult on the preferred options. Community stewardship can be fostered through involvement and understanding/education of the management arrangements. Community stewardship will assist in compliance with the management arrangement and consequently assist with the protection and appreciation of the FHPA.



## **SECTION 10      IMPLEMENTATION PLAN**

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This Plan of Management for Point Quobba has been the subject of public consultation in accordance with requirements of the FRMA for establishing a FHPA.

It is anticipated that a 'Working Group' will be established soon after formal gazettal of the FHPA, which will include representation from key groups including the Shire of Carnarvon, the BPA, the Department of Fisheries and community members. The Working Group will provide a key role in supervising the on-going implementation of strategies contained within the Plan of Management.

The implementation of the preferred options will be subject to funding availability. Provisions have not been allocated by the Department of Fisheries for the implementation of this Plan of Management at this stage.

It will be the responsibility of Department of Fisheries to implement those strategies which can be enforced under, or are directly related to the FRMA. These are as follows:

- gazettal of the FHPA;
- prohibit all forms of fishing within the lagoon area of the FHPA (with the exception of the take of oysters by hand);
- prohibit the collection of all coral, live rock and benthic organisms (including live and dead shells but excluding oysters) within the lagoon area of the FHPA;
- prohibit the anchoring of any craft within the lagoon area; and
- prohibit the use of jet skis in the lagoon area.



## REFERENCES

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- DA Lord & Associates in *Draft Carnarvon Coastal Strategy* SMEC Aust P/L 2001.
- Department of Conservation and Land Management, 1994. *A Representative Marine Reserve System for Western Australia, Report of the Marine Parks and Reserves Selection Working Group*. Perth.
- Department of Conservation and Land Management, 1998. *New Horizons - The Way Forward in Marine Conservation and Management*. Government of WA.
- Department of Fisheries, 1998. *Management of the Houtman Abrolhos System*. Fisheries Management Paper No 117.
- Department of Fisheries, 2002. *Fisheries Environmental Management Plan For The Gascoyne Region - Draft Report*. Fisheries Management Paper No 142.
- Department of Fisheries, 2001. *Guidelines For The Establishment Of A Fish Habitat Protection Area*. Fisheries Management Paper No. 152.
- Department of Fisheries, 1999. *The assessment of applications for the granting, renewal or transfer of fishing tour operator licences and aquatic eco-tourism operators licences'* Ministerial Policy Guideline No.12.



## **APPENDIX 1 LIST OF PEOPLE CONSULTED**

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Clr. Peter Blurton	Shire of Carnarvon, Carnarvon
Clr. Karl Brandenburg	Shire of Carnarvon, Recreational Fishing Advisory Committee (RFAC), Carnarvon
Mr Nathan Cope	Marine Aquarists Association, Perth
Mr Brad Cox	Outback Coast Dive Club, Carnarvon
Mr Stuart Field	Department. Conservation & Land Management, Perth
Mr Simon Glossop	WA Tourism Commission, Carnarvon
Mr Tim Meecham	Quobba Station, Carnarvon
Mr Jim Miller	Blowholes Protection Association, Carnarvon
Mr Peter Moore	Professional Fisherman, Geraldton
Mr Phil Moore	Professional Fisherman, Geraldton
Mr Kevin O'Meara	RFAC, Volunteer Fisheries Liaison Officer (VFLO), Carnarvon
Mr Clinton Strugnell	Chief Executive Officer, Shire of Carnarvon, Carnarvon
Mr Steve Thompson	Shire Planner, Shire of Carnarvon, Carnarvon
Mr Phil Woods	Chair, Carnarvon RFAC, Carnarvon
Mr Laurie Caporn	Department of Fisheries, Carnarvon
Mr Shane Aylmore	Department of Fisheries, Carnarvon
Mr Tim Nicholas	Department of Fisheries, Carnarvon
Mr Cameron Dawes-Smith	Department of Fisheries, Carnarvon



## **FISHERIES MANAGEMENT PAPERS**

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- No. 1** The Report of the Southern Western Australian Shark Working Group. Chairman P. Millington (1986).
- No. 2** The Report of the Fish Farming Legislative Review Committee. Chairman P. Rogers (1986).
- No. 3** Management Measures for the Shark Bay Snapper 1987 Season. P. Millington (1986).
- No. 4** The Esperance Rock Lobster Working Group. Chairman A. Pallot (1986).
- No. 5** The Windy Harbour - Augusta Rock Lobster Working Group. Interim Report by the Chairman A. Pallot (1986).
- No. 6** The King George Sound Purse Seine Fishery Working Group. Chairman R. Brown (1986).
- No. 7** Management Measures for the Cockburn Sound Mussel Fishery. H. Brayford (1986).
- No. 8** Report of the Rock Lobster Industry Advisory meeting of 27 January 1987. Chairman B. Bowen (1987).
- No. 9** Western Rock Lobster Industry Compensation Study. Arthur Young Services (1987).
- No. 10** Further Options for Management of the Shark Bay Snapper Fishery. P. Millington (1987).
- No. 11** The Shark Bay Scallop Fishery. L. Joll (1987).
- No. 12** Report of the Rock Lobster Industry Advisory Committee to the Hon Minister for Fisheries 24 September 1987. (1987)
- No. 13** A Development Plan for the South Coast Inshore Trawl Fishery. (1987)
- No. 14** Draft Management Plan for the Perth Metropolitan Purse Seine Fishery. P. Millington (1987).
- No. 15** Draft management plan, Control of barramundi gillnet fishing in the Kimberley. R. S. Brown (1988).
- No. 16** The South West Trawl Fishery Draft Management Plan. P. Millington (1988).
- No. 17** The final report of the pearling industry review committee. F.J. Malone, D.A. Hancock, B. Jeffriess (1988).
- No. 18** Policy for Freshwater Aquaculture in Western Australia. (1988)
- No. 19** Sport Fishing for Marron in Western Australia - Management for the Future. (1988)
- No. 20** The Offshore Constitutional Settlement, Western Australia 1988.
- No. 21** Commercial fishing licensing in Western Australia. (1989)
- No. 22** Economics and marketing of Western Australian pilchards. SCP Fisheries Consultants Pty Ltd (1988).
- No. 23** Management of the south-west inshore trawl fishery. N. Moore (1989)
- No. 24** Management of the Perth metropolitan purse-seine fishery. N. Moore (1989).
- No. 25** Rock Lobster Industry Advisory Committee report to the Minister for Fisheries November 1988. (1989)
- No. 26** A report on marron fishing in Western Australia. Chairman Doug Wenn MLC (1989).
- No. 27** A review of the Shark Bay pearling industry. Dr D.A. Hancock, (1989).
- No. 28** Southern demersal gillnet and longline fishery. (1989)
- No. 29** Distribution and marketing of Western Australian rock lobster. P. Monaghan (1989).
- No. 30** Foreign investment in the rock lobster industry. (1989)
- No. 31** Rock Lobster Industry Advisory Committee report to the Hon Minister for Fisheries September 1989. (1989)
- No. 32** Fishing Licences as security for loans. P. Rogers (1989)

- No. 33** Guidelines for by-laws for those Abrolhos Islands set aside for fisheries purposes. N. Moore (1989).
- No. 34** The future for recreational fishing - issues for community discussion. Recreational Fishing Advisory Committee (1990).
- No. 35** Future policy for charter fishing operations in Western Australia. P. Millington (1990).
- No. 36** Long term management measures for the Cockburn Sound restricted entry fishery. P. Millington (1990).
- No. 37** Western rock lobster industry marketing report 1989/90 season. MAREC Pty Ltd (1990).
- No. 38** The economic impact of recreational fishing in Western Australia. R.K. Lindner, P.B. McLeod (1991).
- No. 39** Establishment of a registry to record charges against fishing licences when used as security for loans. P. Rogers. (1991)
- No. 40** The future for Recreational Fishing - Forum Proceedings. Recreational Fishing Advisory Committee (1991)
- No. 41** The future for Recreational Fishing - The Final Report of the Recreational Fishing Advisory Committee. Recreational Fishing Advisory Committee (1991).
- No. 42** Appendix to the final report of the Recreational Fishing Advisory Committee. (1991)
- No. 43** A discussion of options for effort reduction. Southern Gillnet and Demersal Longline Fishery Management Advisory Committee (1991).
- No. 44** A study into the feasibility of establishing a system for the buy-back of salmon fishing authorisations and related endorsements. (1991)
- No. 45** Draft Management Plan, Kimberley Prawn Fishery. (1991)
- No. 46** Rock Lobster Industry Advisory Committee, Chairman's report to the Minister (1992)
- No. 47** Long term management measures for the Cockburn Sound restricted entry fishery. Summary of submissions and final recommendations for management. P. Millington (1992).
- No. 48** Pearl oyster fishery policy guidelines (Western Australian Pearling Act 1990). Western Australian Fisheries Joint Authority (1992).
- No. 49** Management plan, Kimberley prawn fishery. (1992)
- No. 50** Draft management plan, South West beach seine fishery. D.A. Hall (1993).
- No. 51** The west coast shark fishery, draft management plan. D.A. Hall (1993).
- No. 52** Review of bag and size limit proposals for Western Australian recreational fishers. F.B. Prokop (May 1993).
- No. 53** Rock Lobster Industry Advisory Committee, Chairman's report to the Minister for Fisheries. (May 1993)
- No. 54** Rock Lobster Industry Advisory Committee, Management proposals for 1993/94 and 1994/95 western rock lobster season (July 1993).
- No. 55** Rock Lobster Industry Advisory Committee, Chairman's report to the Minister for Fisheries on management proposals for 1993/94 and 1994/95 western rock lobster seasons (September 1993).
- No. 56** Review of recreational gill, haul and cast netting in Western Australia. F. B. Prokop (October 1993).
- No. 57** Management arrangements for the southern demersal gillnet and demersal longline fishery 1994/95 season. (October 1993).
- No. 58** The introduction and translocation of fish, crustaceans and molluscs in Western Australia. C. Lawrence (October 1993).
- No. 59** Proceedings of the charter boat management workshop (held as part of the 1st National Fisheries Manager Conference). A. E. Magee & F. B. Prokop (November 1993).
- No. 60** Bag and size limit information from around Australia (Regulations as at September 1993) F. B. Prokop (January 1993).

- No. 61** Economic impact study. Commercial fishing in Western Australia Dr P McLeod & C McGinley (October 1994)
- No. 62** Management arrangements for specimen shell collection in Western Australia. J. Barrington, G. Stewart (June 1994)
- No. 63** Management of the marine aquarium fish fishery. J. Barrington (June 1994)
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